What is claimed is:

1. A liquid crystal display with an integrated color filter, comprising:

an active matrix substrate with a plurality of switching elements;

an insulating layer formed on the active matrix substrate;

a double-organic layer formed on the insulating layer;

a plurality of pixel electrodes formed on the double-organic layer, and electrically connected to the respective switching elements via a plurality of respective contact holes;

a substrate positioned a predetermined distance above the active matrix substrate; and

a liquid crystal layer between the two substrates.

2. The liquid crystal display with an integrated color filter as claimed in claim 1, wherein the double-organic layer comprises a plurality of color-filter units and a transparent organic layer.

3. The liquid crystal display with an integrated color filter as claimed in claim 2, wherein the color-filter units layer is formed above the transparent organic layer.

4. The liquid crystal display with an integrated color filter as claimed in claim 2, wherein the transparent organic layer is formed above the color-filter units layer.

5. The liquid crystal display with an integrated color filter as claimed in claim 2, wherein the transparent organic layer is formed of polycarbonate or acrylic-resin.

6. The liquid crystal display with an integrated color filter as claimed in claim 2, wherein the light transmission of the transparent organic layer is above 90%.

7. The liquid crystal display with an integrated color filter as claimed in claim 2, wherein the dielectric constant of the transparent organic layer is 2.6-3.6.

8. The liquid crystal display with an integrated color filter as claimed in claim 2, wherein the thickness of the transparent organic layer is 1.5-3.5μm.

9. The liquid crystal display with an integrated color filter as claimed in claim 2, wherein the dielectric constant of the color-filter units is 3.5-5.0.

10. The liquid crystal display with an integrated color filter as claimed in claim 2, wherein the thickness of the color-filter units is 1.0-2.0μm.

11. The liquid crystal display with an integrated color filter as claimed in claim 2, wherein the color-filter units includes red, green and blue units.

12. The liquid crystal display with an integrated color filter as claimed in claim 1, wherein the pixel electrodes are made of indium tin oxide.

13. The liquid crystal display with an integrated color filter as claimed in claim 1, wherein the contact holes pass through the insulating layer and the double-organic layer.

14. An integrated color filter, comprising:

a substrate;

a plurality of switching elements formed on the substrate in a matrix arrangement;

an insulating layer formed on the switching elements;

a transparent organic layer formed above the insulating layer;

a plurality of color-filter units formed above the transparent organic layer; and

a plurality of pixel electrodes formed above the color-filter units, and electrically connected to the respective switching elements via a plurality of respective contact holes, wherein the contact holes pass through the transparent organic layer, color-filter units and the insulating layer.

15. An integrated color filter, comprising:

a substrate;

a plurality of switching elements formed on the substrate in a matrix arrangement;

an insulating layer formed on the switching elements;

a plurality of color-filter units formed above the insulating layer;

a transparent organic layer formed above the color-filter units; and

a plurality of pixel electrodes formed above the color-filter units, and electrically connected to the respective switching elements via a plurality of respective contact holes, wherein the contact holes pass through the transparent organic layer, color-filter units and the insulating layer.

16. A method of fabricating an integrated color filter, comprising:

providing a substrate;

forming a plurality of switching elements on the substrate in a matrix arrangement;

forming an insulating layer on the switching elements;

forming a transparent organic layer on the switching elements, wherein the transparent organic layer has a first hole

exposing a part of the surface of the insulating layer;

etching the insulating layer by using the transparent organic layer as an etching mask to form a second hole in the insulating layer, wherein the second hole joins the first hole and exposes a part of the surface of the switching elements;

forming a plurality of color-filter units with a third hole on the transparent organic layer, wherein the third hole forms a contact hole together with the first and the second holes to expose the part of the surface of the switching elements; and

forming a plurality of pixel electrodes on the color-filter units, wherein the pixel electrodes are electrically connected with the switching elements via the contact hole.

17. The method of fabricating an integrated color filter as claimed in claim 16, wherein the transparent organic layer is made of polycarbonate or acrylic-resin.

18. The method of fabricating an integrated color filter as claimed in claim 16, wherein the light transmission of the transparent organic layer is above 90%.

19. The method of fabricating an integrated color filter as claimed in claim 16, wherein the dielectric constant of the transparent organic layer is 2.6-3.6.

20. The method of fabricating an integrated color filter as claimed in claim 16, wherein the thickness of the transparent organic layer is 1.5-3.5μm.

21. The method of fabricating an integrated color filter as claimed in claim 16, wherein the dielectric constant of the color-filter units is 3.5-5.0.

22. The method of fabricating an integrated color filter as claimed in claim 16, wherein the thickness of the color-filter units is 1.0-2.0μm.

23. The method of fabricating an integrated color filter as claimed in claim 16, wherein the color-filter units includes red, green and blue units.

24. The method of fabricating an integrated color filter as claimed in claim 16, wherein the pixel electrodes are made of indium tin oxide.

25. A method of fabricating an integrated color filter, comprising:

providing a substrate;

forming a plurality of switching elements on the substrate in a matrix arrangement;

forming an insulating layer on the switching elements;

forming a plurality of color-filter units with a first hole on the insulating layer;

forming a transparent organic layer on the color-filter units, having a second hole to expose the first hole;

etching the insulating layer by using the transparent organic layer as a mask, forming a third hole in the insulating layer to expose a part of the surface of the switching elements, wherein the third hole forms a contact hole together with the first and the second holes; and

forming a plurality of pixel electrodes on the transparent organic layer, wherein the pixel electrodes are electrically connected with the switching elements via the contact hole.

26. The method of fabricating an integrated color filter as claimed in claim 25, wherein the transparent organic layer is made of polycarbonate or acrylic-resin.

27. The method of fabricating an integrated color filter as claimed in claim 25, wherein the light transmission of the transparent organic layer is above 90%.

28. The method of fabricating an integrated color filter as claimed in claim 25, wherein the dielectric constant of the transparent organic layer is 2.6-3.6.

29. The method of fabricating an integrated color filter as claimed in claim 25, wherein the thickness of the transparent organic layer is 1.5-3.5μm.

30. The method of fabricating an integrated color filter as claimed in claim 25, wherein the dielectric constant of the color-filter units is 3.5-5.0.

31. The method of fabricating an integrated color filter as claimed in claim 25, wherein the thickness of the color-filter units is 1.0-2.0μm.

32. The method of fabricating an integrated color filter as claimed in claim 25, wherein the color-filter units includes red, green and blue units.

33. The method of fabricating an integrated color filter as claimed in claim 25, wherein the pixel electrodes are made of indium tin oxide.